Seminar Series (Online Zoom Webinar): Frontiers of Big Data, AI, and Analytics

We are pleased to welcome Professor Soroush Saghafian (Harvard University) on 29/04/2022, 10:00AM–11:30AM (Australian Eastern Standard Time (GMT+10)).

Discussion Theme: Machine Largening and Public Policy

Professor Soroush Saghafian
Harvard University

Abstract: Machine Learning and AI tools have been vastly used in recent years to improve how societal problems are being addressed. In this talk, Professor Saghafian, who has been teaching a class at Harvard University entitled "Machine Learning and Big Data Analytics," discusses a verity of such examples. His talk brings attention to how public policy and public decision-making can benefit from the recent advancements in Machine Learning, Big Data Analytics, and AI.

Short Bio: Dr. Soroush Saghafian is an Associate Professor at Harvard University. He is the founder and director of the Public Impact Analytics Science Lab (PIAS-Lab) at Harvard, which is devoted to advancing and applying the science of analytics for solving societal problems that can have public impact. He serves as a faculty affiliate for the Harvard Data Science Initiative, the Harvard Mossavar-Rahmani Center for Business & Government, the Harvard Ph.D. Program in Health Policy, the Harvard Center for Health Decision Science, the Harvard Belfer Center for Science & International Affairs, and is an associate faculty member at the Harvard Ariadne Labs (Health Systems Innovation).

To join this event through Zoom, register your attendance from this link by NOON 28/04/2022 (Zoom link is provided 1 day prior to the event)
To register: https://www.eventbrite.com.au/e/machine-largening-and-public-policy-tickets-311053207517

Unleashing ideas and insights for harnessing the successful future of business & society!

Co-organizers
Tomohiro Ando (Melbourne Business School, University of Melbourne)
Robert Kohn (UNSW Business School, University of New South Wales)
Valentin Zelenyuk (School of Economics, University of Queensland)

About this event series:

This event series aims to unleash ideas and insights for harnessing the successful future of business & society. The first part (speaker's talk) focuses on cutting edge ideas and the second part (discussion and Q&A from audience) explores its practical usages/implications in business and society, bridging a gap between new ideas and business & society. The main audience for the talks is business professionals (including C-suites, directors, managers) from small to large organizations, government and regulatory and not-for-profit organizations. It is not necessary to have a fluency of data methods to enjoy the talks.

Recent events:

Discussion theme: **Stop explaining black box machine learning models for high stakes decisions and use interpretable models instead**
Speaker: **Professor Cynthia Rudin (Duke University)**
Professor Rudin discussed reasons why we should use interpretable models, the most compelling of which is that for high stakes decisions, interpretable models do not seem to lose accuracy over black boxes -- in fact, she advocated that the opposite is true, where when we understand what the models are doing, we can troubleshoot them to ultimately gain accuracy.
Recorded video is available here

Discussion theme: **From COVID-19 Testing to Election Prediction: How Small Are Our Big Data?**
Speaker: **Professor Xiao-Li Meng (Harvard University)**
The term "Big Data" emphasizes data quantity, not quality. What will be the effective sample size when we take into account the deterioration of data quality because of, for example, the selection bias in COVID-19 testing or the non-response bias in 2016 US Election polling results? This talk provides an answer to such questions, based on the concept of data defect index (ddi) developed in Meng (2018) Statistical paradises and paradoxes in big data (I): Law of large populations, bigdata paradox, and the 2016 US presidential election. Annals of Applied Statistics, 685-726. He also discussed briefly the application of ddi for 2020 US Election, as reported in Isakov and Kuriwaki (2020) Towards Principled Unskewing: Viewing 2020 Election Polls Through a Corrective Lens from 2016. Harvard Data Science Review.
Recorded video is available here

Discussion theme: **Big Data, Machine Learning and AI for Preserving Integrity in Online Social Networks**
Speaker: **Professor Dr Alon Halevy (Director Facebook AI & Professor, University of Washington)**
Professor Halevy discussed how big data, AI and analytics can help us to Preserving Integrity in Online Social Networks. Through a survey came from the perspective of having to combat a broad spectrum of integrity violations at Facebook, Alon discussed a potential and current challenges of machine learning, AI and state-of-art tools.
Recorded video is available here

Discussion theme: **Telling, Inspiring, Demonstrating, and Explaining: Getting Machines To Do What We Want**
Speaker: **Michael Littman (Brown University)**
These days, pretty much everything is a computer, resulting in devices that are powerful and flexible. But they are only useful if they carry out our wishes. Programming was invented as a mechanism for communicating the steps we want machines to carry out, but some tasks have proven difficult for even expert programmers to express. Machine learning provides a broader palette of techniques for conveying our intent to computers. Professor Littman covered several advances in machine learning from the perspective of how we can use them to better express our wishes to computers.
Recorded video is available here

Discussion theme: **Big Data and Analytics for Online Platform Market**
Speaker: **Professor Kosuke Uetake (Yale School of Management, Yale University)**
Professor Uetake discussed how big data and analytics can help us to manage multi-sided online platform markets. Together with a high-level summary of key aspects in managing platform, practical recommendations and discussion were provided. Through big data analysis, Kosuke also shared new empirical findings on online platform management.
Recorded video is available here

Discussion theme: **An Expansive View of Experimentation**
Speaker: **Dr Sean Taylor (Lyft)**
Testing product and algorithmic changes via A/B tests is common practice, but more complex experiments are still relatively rare. Dr Taylor laid out a variety of ways in which we leverage randomization to estimate more relevant, complex, and useful quantities of interest. Generalizing from the special case of binary treatments to multiple continuous treatments, instruments, and contextual policies are natural extensions to an already proven architecture for generating knowledge and decisions. He discussed how randomization provides a natural complement to machine learning models powering policy decisions.
Recorded video is available here

Discussion theme: **Can AI replace high-skilled workers?**
Speaker: **Professor Matthew Harding (University of California, Irvine)**
Professor Harding discussed how Artificial Intelligence (AI) can learn and replicate subjective judgements of high-skilled workers, a possible enabler for improving business efficiency, as well as his perspectives on how big data, and AI can create value in business.

Discussion theme: **Big Data and Context-based Marketing**
Speaker: **Professor Yasutora Watanabe (University of Tokyo)**
Professor Watanabe discussed how big data can be an enabler for understanding customer behavior, particularly when contextual factors play an important role, as well as his perspectives on how analytics, big data, and AI can create value in business.

Discussion theme: **The Impact of AI on Society in the Coming Years**
Speaker: **Dr Steve Shwartz**
Steve explained how AI works and why we do not need to worry about evil robots trying to exterminate us. He then discussed how AI will impact society in many ways in the coming years. He explained why self-driving cars are not safe and should not be allowed on our roads. He also discussed AI-enhanced weapons of war, threats to our privacy, how AI can increase discrimination, and the impact of AI on employment.